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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,671	03/18/2004	Timothy G. Offerle	81095823FGT1905	2670
28549	7590	08/11/2004	EXAMINER	
KEVIN G. MIERZWA ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034			TO, TUAN C	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/708,671	Applicant(s) OFFERLE ET AL.	
	Examiner Tuan C To	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1- 4, 6-8, 11-17, 18, 20-27, and 29-35 is/are rejected.
- 7) ☒ Claim(s) 5,9,10,19 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/18/04, 06/14/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION***Specification***

The disclosure is objected to because of the following informalities: In the "Cross Reference to Related Applications" section, the U.S application numbers of the related applications have not been provided. Appropriate correction is required.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "172" and "171" have both been used to designate "trailer coupler". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In addition, in the specification, none of detailed of description of the figure 5B has been provided.

Information Disclosure Statement

The information disclosure statement filed 06/14/2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the

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relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, three of foreign patent documents listed in the IDS are not in the English language (DE 3625025, De 4224887, EP 0295396). The reference to Lux et al (GB 2188012) has been considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of

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35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 4, 6-8, 11, 13-16, 18, 20-23, 25-27, 29-32, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritz et al. (U.S. 20020060103A1), and in view of Yone (U.S. 20030172757A1).

Claim 1:

With respect to claim 1, the reference to Ritz et al. basically discloses a vehicle control system and a method for steering supporting braking action, wherein said vehicle is equipped with a steering system (24) and the braking system (30) (Ritz et al., figure 1; page 2, paragraph [0028]; page 3, paragraph [0029]. Although Ritz et al. teach the vehicle has a an electronic traction control system, a steering-supporting braking torque, in order to reduce the turning radius or improve maneuverability, Ritz et al. do not disclose the step of generating a reverse direction signal corresponding to a reverse direction of the vehicle. The secondary reference to Yone is directed to a transmission operating apparatus for a vehicle comprising: a position detecting means for detecting the position of a shift lever manipulated by a driver (Yone, figure 1, page 2, paragraph [0023]) and the controller (4) generates a reverse direction signal in response to the reverse position of the shift lever (Yone, page 2, paragraph [0023]; figure 1, controller 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Ritz et al. to include the teaching as taught by Yone so that the vehicle is prevented from producing any

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reactive steering assist torque which could worsen the behavior of the vehicle when the vehicle is moving rearward.

With regard to claims 2 and 4, the reference to Yone, as discussed above, includes the shift position lever detecting means for detecting the position of the shift lever. The computer (4) shown in figure 4 of Yone generates the reverse direction signal in response to the said detecting means.

With regard to claim 5, the reference to Ritz et al. discloses a vehicle system for improving the steering to combine with teaching of Yone to produce the claimed limitation of claim 1. Ritz et al. also disclose that the steering system (25) (Ritz et al., figure 1) that include the wheel speed sensor or steering wheel angle sensor. It should be noted that the wheel speed sensor detects the rotation of the wheel.

With regard to claims 6 and 7, the reference to Ritz et al. teaches that the act of braking the wheel inside the curve resulting in the additional drive torque being generated on the wheel outside the curve. And therefore, the control system generate steering-supporting braking torque on the inside curve wheel. The result is the turning radius is reduced (Ritz et al, abstract; page 1, paragraph [0014]; page 2, paragraphs [0015], [0016], [0017]).

With regard to claim 8, the system and method disclosed by Ritz et al. teaches that the steering-supporting braking is applied to the non-driven wheels (Ritz et al., figure 1, left front wheel 2VL, right front wheel 2VR).

With regard to claim 11, the vehicle system disclosed in Ritz et al. includes a steering system (24) and a braking system (30), wherein said steering system

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comprises a steering angle (26) for detecting the steering wheel angle when the vehicle is being braked or steered (Ritz et al., figure 1, steering system 24, steering wheel angle sensor 26).

With regard to claim 13, the system and method disclosed by Ritz et al. including the steering wheel torque is generated based on the steering system (24) and braking system (30).

With regard to claim 14, the vehicle control system and method disclosed in Ritz et al. teaches that the control system (23) monitors the vehicle velocity (Ritz et al., page 3, paragraph [0031]).

Claim 15:

With respect to claim 15, the reference to Ritz et al. basically discloses a vehicle control system and a method for steering supporting braking action, wherein said vehicle is equipped with a steering system (24) and the braking system (30) (Ritz et al., figure 1; page 2, paragraph [0028]; page 3, paragraph [0029]). Although Ritz et al. teach the vehicle has a an electronic traction control system, a steering-supporting braking torque, in order to reduce the turning radius or improve maneuverability, Ritz et al. do not disclose the step of generating a reverse direction signal corresponding to a reverse direction of the vehicle. The secondary reference to Yone is directed to a transmission operating apparatus for a vehicle comprising: a position detecting means for detecting the position of a shift lever manipulated by a driver (Yone, figure 1, page 2, paragraph [0023]) and the controller (4) generates a reverse direction signal in

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response to the reverse position of the shift lever (Yone, page 2, paragraph [0023]; figure 1, controller 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Ritz et al. to include the teaching as taught by Yone so that the vehicle is prevented from producing any reactive steering assist torque which could worsen the behavior of the vehicle when the vehicle is moving rearward.

With regard to claims 16 and 18, the reference to Yone, as discussed above, includes the shift position lever detecting means for detecting the position of the shift lever. The computer (4) shown in figure 4 of Yone generates the reverse direction signal in response to the said detecting means.

With regard to claims 20-22, the reference to Ritz et al. teaches that the act of braking the wheel inside the curve resulting in the additional drive torque being generated on the wheel outside the curve. And therefore, the control system generate steering-supporting braking torque on the inside curve wheel. The result is the turning radius is reduced (Ritz et al, abstract; page 1, paragraph [0014]; page 2, paragraphs [0015], [0016], [0017]).

With regard to claim 23, the vehicle system disclosed in Ritz et al. includes a steering system (24) and a braking system (30), wherein said steering system comprises a steering angle (26) for detecting the steering wheel angle when the vehicle is being braked or steered (Ritz et al., figure 1, steering system 24, steering wheel angle sensor 26).

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With regard to claim 25, the system and method disclosed by Ritz et al. including the steering wheel torque is generated based on the steering system (24) and braking system (30).

With regard to claim 26, the vehicle control system and method disclosed in Ritz et al. teaches that the control system (23) monitors the vehicle velocity (Ritz et al., page 3, paragraph [0031]).

Claim 27:

With respect to claim 27, the reference to Ritz et al. basically discloses a vehicle control system and a method for steering supporting braking action, wherein said vehicle is equipped with a steering system (24) and the braking system (30) (Ritz et al., figure 1; page 2, paragraph [0028]; page 3, paragraph [0029]). Although Ritz et al. teach the vehicle has a an electronic traction control system, a steering-supporting braking torque, in order to reduce the turning radius or improve maneuverability, Ritz et al. do not disclose the step of generating a reverse direction signal corresponding to a reverse direction of the vehicle. The secondary reference to Yone is directed to a transmission operating apparatus for a vehicle comprising: a position detecting means for detecting the position of a shift lever manipulated by a driver (Yone, figure 1, page 2, paragraph [0023]) and the controller (4) generates a reverse direction signal in response to the reverse position of the shift lever (Yone, page 2, paragraph [0023]; figure 1, controller 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Ritz et al. to include the

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teaching as taught by Yone so that the vehicle is prevented from producing any reactive steering assist torque which could worsen the behavior of the vehicle when the vehicle is moving rearward.

With regard to claims 29-31, the reference to Ritz et al. teaches that the act of braking the wheel inside the curve resulting in the additional drive torque being generated on the wheel outside the curve. And therefore, the control system generate steering-supporting braking torque on the inside curve wheel. The result is the turning radius is reduced (Ritz et al, abstract; page 1, paragraph [0014]; page 2, paragraphs [0015], [0016], [0017]).

With regard to claim 32, the vehicle system disclosed in Ritz et al. includes a steering system (24) and a braking system (30), wherein said steering system comprises a steering angle (26) for detecting the steering wheel angle when the vehicle is being braked or steered (Ritz et al., figure 1, steering system 24, steering wheel angle sensor 26).

With regard to claim 34, the system and method disclosed by Ritz et al. including the steering wheel torque is generated based on the steering system (24) and braking system (30).

With regard to claim 35, the vehicle control system and method disclosed in Ritz et al. teaches that the control system (23) monitors the vehicle velocity (Ritz et al., page 3, paragraph [0031]).

Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritz et al. (U.S. 20020060103A1), Yone (U.S. 20030172757A1), and further in view of Kakinami et al. (U.S. 20010026317A1).

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With respect to claims 3 and 17, the combination of Ritz et al. and Yone as discussed above discloses the limitations as recited in claims 1 and 15 except for the teaching of “generating a reverse direction signal comprises generating a reverse direction from a push button”. The reference to Kakinami et al. has been provided to overcome the missing feature from the teachings of Ritz et al. and Yone. In Kakinami et al. patent, a shift reverse switch (3), which is shown in figure 1, for detecting the reverse mode of the transmission shift lever. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Ritz et al., Yone, and Kakinami et al. in order to notify that the driver is trying to operate the vehicle in rearward instead of forward. And therefore, the starting speed of the vehicle is surely controlled to avoid a possible collision with the object on the back.

Claims 12, 24, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritz et al. (U.S. 20020060103A1), Yone (U.S. 20030172757A1), and further in view of Takagi et al. (U.S. 20030080877A1).

As discussed above, the reference to Ritz et al. and Yone are combined to teach the claimed limitations as recited in claim 1. Neither Ritz et al. nor Yone discloses “applying brake-steer comprises applying brake-steer in response to the reverse direction signal and said yaw rate”. The reference to Takagi et al. has been provided as teaching a vehicle system for helping driver during parallel parking or driving rearward, comprising the yaw rate sensor (30) (Takagi et al., figure 1, yaw rate sensor 30) for detecting the yaw rate while the vehicle is being operated turning rearward. It would have been obvious to one having ordinary

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skill in the art at the time the invention was made to modify the system of Ritz et al., Yone to include the teaching as taught by Takagi et al. in order to help the driver, who operates the vehicle, easily and smoothly control the turning of the vehicle.

Allowable Subject Matter

The examiner has found none of the references of record teaches the following: "generating a reverse direction signal comprises generating a reverse direction from a push button" and "generating a reverse direction signal comprises generating a reverse direction from a wheel speed sensor", "applying brake-steer comprise proportioning brake-steer between a front wheel and a rear wheel", "proportioning comprises proportioning between the front and rear wheel in response to a transfer case mode", and "transfer case having a transfer case mode, said controller changing the transfer case mode based on brake-steer". Thus, claims 5, 9, 10, 19, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusions

The prior art made of record, which are listed in PTO-892, and not relied upon are considered pertinent to applicant's disclosure includes the following: Tanaka et al.'s, Takagi et al. (U.S. 458B1), and Sivashankar et al.'s.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan C To whose telephone number is (703) 308-6273. The examiner can normally be reached on from 8:00AM to 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (703) 305-8233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and none for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Patent Examiner,

A handwritten signature in black ink, appearing to read "C. H. H. H.", is written over a horizontal line.

Date: August 8, 2004